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November 22, 2002

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November 22, 2002	<i>Michael C. Barrett</i>
Date	Michael C. Barrett

BOX DD
Commissioner for Patents
Washington, DC 20231

RE: *U.S. Patent Application No. 10/027,782 entitled "FORMING AND MODIFYING DIELECTRICALLY-ENGINEERED MICROPARTICLES" – Peter R.C. Gascoyne et al.*
Our reference: UTSC:736US
Client reference: CIP of MDA99-043

Sir:

Enclosed for filing in the above-referenced patent application is an Information Disclosure Statement, Form PTO-1449, and references (A1-A65, B1-B11, C1-C107).

No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to the enclosed materials, the Commissioner is hereby authorized to deduct said fees from Fulbright & Jaworski Deposit Account No.: 50-1212/UTSC:736US.

Please date stamp and return the enclosed postcard evidencing receipt of these materials.

Respectfully submitted,

Michael C. Barrett
Michael C. Barrett
Reg. No. 44,523

MCB/cmb
Encl.: as noted
25233540.1



PATENT

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Peter R.C. Gascoyne *et al.*

Serial No.: 10/027,782

Filed: December 20, 2001

For: FORMING AND MODIFYING
DIELECTRICALLY-ENGINEERED
MICROPARTICLES

Group Art Unit: 1741

Examiner: Unknown

Atty. Dkt. No.: UTSC:736US

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INFORMATION DISCLOSURE STATEMENT

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Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

In accordance with 37 C.F.R §§ 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be

an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is hereby authorized to deduct said fees from Fulbright & Jaworski Deposit Account No.: 50-1212/UTSC:736US.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,



Michael C. Barrett
Reg. No. 44,523
Attorney for Applicants

FULBRIGHT & JAWORSKI L.L.P.
600 Congress Avenue, Suite 2400
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Date: November 22, 2002

Form PTO-1449 (modified)

Atty. Docket No.

UTSC:736US

Serial No.

10/027,782

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

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Applicant

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U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	3,970,518	7/20/76	Giaever	195	1.5	7/1/75
	A2	4,018,886	4/19/77	Giaever	424	12	7/1/75
	A3	4,070,246	1/24/78	Kennedy <i>et al.</i>	195	99	4/9/76
	A4	4,115,534	9/19/78	Ithakissios	424	1	6/20/77
	A5	4,115,535	9/19/78	Giaever	424	1	6/22/77
	A6	4,141,687	2/27/79	Forrest <i>et al.</i>	23	230	3/10/77
	A7	4,177,253	12/4/79	Davies <i>et al.</i>	424	1	7/6/77
	A8	4,190,524	2/26/80	Watson	209	213	7/21/75
	A9	4,196,265	4/1/80	Koprowski <i>et al.</i>	435	2	8/11/78
	A10	4,219,411	8/26/80	Yen <i>et al.</i>	209	213	9/18/78
	A11	4,230,685	10/28/80	Senyei <i>et al.</i>	424	12	2/28/79
	A12	4,272,510	6/9/81	Smith <i>et al.</i>	427	47	4/26/76
	A13	4,285,819	8/25/81	Yen <i>et al.</i>	210	679	1/28/80
	A14	4,290,528	9/22/81	Stekly	209	223	6/2/80
	A15	4,375,407	3/1/83	Kronick	209	8	6/22/81
	A16	4,452,773	6/5/84	Molday	424	1.1	4/5/82
	A17	4,454,234	6/12/84	Czerlinski	436	526	12/30/81
	A18	4,523,996	6/18/85	Charles <i>et al.</i>	210	504	2/22/84
	A19	4,526,681	7/2/85	Friedlaender <i>et al.</i>	209	214	10/31/83
	A20	4,554,088	11/19/85	Whitehead <i>et al.</i>	252	62.54	5/12/83
	A21	4,582,622	4/15/86	Ikeda <i>et al.</i>	252	62.53	10/12/84
	A22	4,595,494	6/17/86	Kukuck	209	224	9/13/84
	A23	4,628,037	12/9/86	Chagnon <i>et al.</i>	436	526	6/13/85

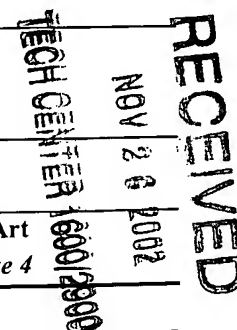
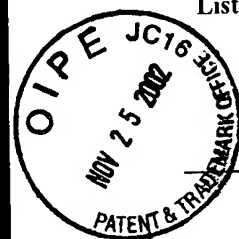
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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)



Form PTO-1449 (modified)

Atty. Docket No.
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Applicant
Peter R.C. Gascoyne *et al.*

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*See Page 1*Foreign Patent Documents
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U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A24	4,664,796	5/12/87	Graham <i>et al.</i>	210	222	9/16/85
	A25	4,672,040	6/9/87	Josephson	436	526	6/28/85
	A26	4,695,392	9/22/87	Whitehead <i>et al.</i>	252	62.54	6/13/85
	A27	4,738,773	4/19/88	Muller-Ruchholtz <i>et al.</i>	209	214	5/29/86
	A28	4,751,053	6/14/88	Dodin <i>et al.</i>	422	101	10/22/85
	A29	4,777,145	10/11/88	Luotola <i>et al.</i>	436	526	10/8/85
	A30	4,855,045	8/8/89	Reed	210	223	1/13/83
	A31	4,921,597	5/1/90	Lurie	209	223.2	9/8/89
	A32	4,935,147	6/19/90	Ullman <i>et al.</i>	210	695	10/26/88
	A33	4,941,969	7/17/90	Schonert <i>et al.</i>	209	39	3/25/87
	A34	4,988,618	1/29/91	Li <i>et al.</i>	436	6	5/3/89
	A35	5,053,344	10/1/91	Zborowski <i>et al.</i>	436	177	9/4/90
	A36	5,076,914	12/31/91	Garaschenko <i>et al.</i>	210	186	12/24/87
	A37	5,076,950	12/31/91	Ullman <i>et al.</i>	252	62.51	6/5/90
	A38	5,091,206	2/25/92	Wang <i>et al.</i>	427	2	5/30/89
	A39	5,108,933	4/28/92	Liberti <i>et al.</i>	436	501	8/4/89
	A40	5,158,871	10/27/92	Rossomando <i>et al.</i>	435	7.32	2/2/89
	A41	5,183,638	2/2/93	Wakatake	422	64	12/3/90
	A42	5,200,084	4/6/93	Liberti <i>et al.</i>	210	695	9/26/90
	A43	5,279,936	1/18/94	Vorpahl	435	6	12/22/89
	A44	5,454,472	10/3/95	Benecke <i>et al.</i>	209	127.1	8/19/92
	A45	5,569,367	10/29/96	Betts <i>et al.</i>	204	547	1/27/95

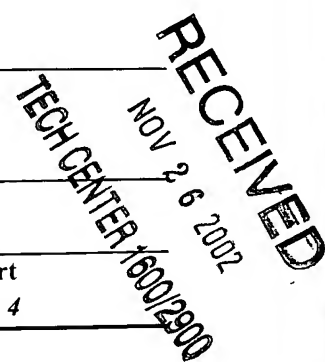
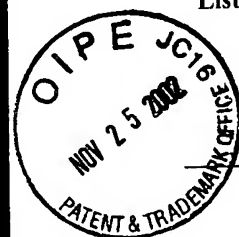
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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)



Form PTO-1449 (modified)

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List of Patents and Publications for Applicant's

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U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A46	5,571,401	11/5/96	Lewis <i>et al.</i>	205	787	3/27/95
	A47	5,653,859	8/5/97	Parton <i>et al.</i>	204	450	1/21/94
	A48	5,683,569	11/4/97	Chung <i>et al.</i>	205	775	2/28/96
	A49	5,814,200	9/29/98	Pethig <i>et al.</i>	204	547	3/31/94
	A50	5,858,192	1/12/99	Becker <i>et al.</i>	204	547	10/18/96
	A51	5,888,370	3/30/99	Becker <i>et al.</i>	204	643	2/23/96
	A52	5,965,452	10/12/99	Kovacs	436	149	7/9/96
	A53	5,993,630	11/30/99	Becker <i>et al.</i>	204	547	1/31/96
	A54	5,993,631	11/30/99	Parton <i>et al.</i>	204	547	7/8/97
	A55	5,993,632	11/30/99	Becker <i>et al.</i>	204	547	2/1/99
	A56	6,010,616	1/4/00	Lewis <i>et al.</i>	205	787	12/8/97
	A57	6,017,696	1/25/00	Heller	435	6	7/7/94
	A58	6,093,308	7/5/00	Lewis <i>et al.</i>	205	787	2/26/99
	A59	6,099,803	8/8/00	Ackley <i>et al.</i>	422	68.1	2/20/98
	A60	6,113,768	9/5/00	Fuhr <i>et al.</i>	204	643	12/23/94
	A61	6,129,828	10/10/00	Sheldon, III <i>et al.</i>	204	518	9/6/96
	A62	6,224,745 B1	5/1/01	Baltruschat	205	775	3/5/98
	A63	6,225,059 B1	5/1/01	Ackley <i>et al.</i>	435	6	1/29/99
	A64	6,287,832 B1	9/11/01	Becker <i>et al.</i>	435	173.9	9/14/99
	A65	6,294,063 B1	9/25/01	Becker <i>et al.</i>	201	450	2/12/99

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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

Form PTO-1449 (modified)

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List of Patents and Publications for Applicant's

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Peter R.C. Gascoyne *et al.*Filing Date:
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Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B1	EP 0513064	11/19/92	Europe			
	B2	EP 0625267	11/23/94	Europe			
	B3	EP 0680380	11/8/95	Europe			
	B4	EP 0691891	1/17/96	Europe			
	B5	EP 0898493	3/3/99	Europe			
	B6	WO 00/69565	11/23/00	PCT			
	B7	WO 93/04199	8/19/93	PCT			
	B8	WO 93/16383	8/19/93	PCT			
	B9	WO 94/16821	8/4/94	PCT			
	B10	WO 97/34689	9/25/97	PCT			
	B11	WO 99/62622	12/9/99	PCT			

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Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	"Bangor biochip heads for California," EPSRC Home Page: http://www.epsrc.ac.uk/documents/about_epsrc/corporate_publications/bangor.ht , article printed on December 26, 2000.
	C2	"Diagnostic dielectrophoresis-on-a-chip," <i>Science/Technology</i> , 77(8):32, 1999. Article printed from http://pubs.acs.org/hotartcl/cenear/99022/7708scitobox2.html on December 26, 2000.
	C3	Abidor <i>et al.</i> , "Membrane electrofusion yields in membrane fractions obtained with a colloid-osmotic hemolysis and electrohemolysis procedure," <i>Bioelectrochem. Bioenerget.</i> , 34:31-37, 1994.
	C4	Allsopp <i>et al.</i> , "Impedance technique for measuring dielectrophoretic collection of microbiological particles," <i>J. Phys. D: Appl. Phys.</i> , 32:1066-1074, 1999.

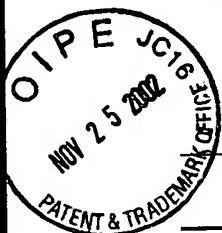
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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)



Form PTO-1449 (modified)		Atty. Docket No. UTSC:736US	Serial No. 10/027,782
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant Peter R.C. Gascoyne <i>et al.</i>	
		Filing Date: December 20, 2001	Group: 1741
U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>See Page 4</i>	Other Art <i>See Page 4</i>	

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C5	Arnold and Zimmermann, "Electro-rotation: developments of a technique for dielectric measurements on individual cells and particles," <i>J. Electrostat.</i> , 21:151-191, 1988.
	C6	Arnold and Zimmermann, "Rotation of an isolated cell in a rotating electric field," <i>Naturwissenschaften</i> , 69: 297-300, 1982.
	C7	Balachandran <i>et al.</i> , "Electrostatic atomization of conducting liquids using AC superimposed on DC fields," <i>IEEE Transactions on Industry Applications</i> , 30(4):850-854, 1994.
	C8	Barany, "Genetic disease detection and DNA amplification using cloned thermostable ligase," <i>Proc. Natl. Acad. Sci. USA</i> , 88:189-193, 1991.
	C9	Barlow <i>et al.</i> , "Film deposition techniques and processes," in <i>Thin Film Technology Handbook</i> , McGraw-Hill, New York, Ch 1, 1998.
	C10	Becker <i>et al.</i> , "Separation of human breast cancer cells from blood by differential dielectric affinity," <i>Proc. Natl. Acad. Sci. USA</i> , 92(3):860-864, 1995.
	C11	Becker <i>et al.</i> , "The removal of human leukaemia cells from blood using interdigitated microelectrodes," <i>J. Phys. D.: Appl. Phys.</i> , 27:2659-2662, 1994.
	C12	Brakeman <i>et al.</i> , "Neuronal localization of the adenomatous polyposis coli tumor suppressor protein," <i>Neuroscience</i> , 91(2):661-672, 1999, Abstract.
	C13	Cheng <i>et al.</i> , "Preparation and hybridization analysis of DNA/RNA from E. coli on microfabricated bioelectronic chips," <i>Nature Biotechnology</i> , 16:541-546, 1998.
	C14	Dutton <i>et al.</i> , "Iron-dextran antibody conjugates: general method for simultaneous staining of two components in high-resolution immunoelectron microscopy," <i>Proc. Natl. Acad. Sci.</i> , 76, 3392-3396, 1979.
	C15	El-Kishky and Gorur, "Electric field and energy computation on wet insulating surfaces," <i>IEEE Transaction on Dielectrics and Electrical Insulation</i> , 3(4):587-593, 1996.
	C16	El-Kishky and Gorur, "Electric field computation on an insulating surface with discrete water droplets," <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 3(3):450-456, 1996.
	C17	Fuhr <i>et al.</i> , "Dielectric spectroscopy of chloroplasts isolated from higher plants - characterization of the double-membrane system," <i>Plant Cell Physiol.</i> 31, 975-985, 1990.
	C18	Fuller <i>et al.</i> , "Microfabricated multi-frequency particle impedance characterization system," <i>Micro Total Analysis System</i> , May 2000.

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Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C19	Galicki <i>et al.</i> , "Electrohydrodynamic atomization of dielectric fluids," <i>Conference on Electrical Insulation and Dielectric Phenomena</i> , IEEE Annual Report, 365-368, 1996.
	C20	Gascoyne <i>et al.</i> , "Manipulations of erythroleukemia cells using travelling electric fields," <i>Proc. 16th IEEE:Eng. Med. Biol. Soc.</i> , 772-773, 1994.
	C21	Gascoyne <i>et al.</i> , "Membrane changes accompanying the induced differentiation of friend murine erythroleukemia cells studied by dielectrophoresis," <i>Biochim. Biophys. Acta</i> , 1149: 119-126, 1993.
	C22	Gascoyne <i>et al.</i> , "Numerical analysis of the influence of experimental conditions on the accuracy of dielectric parameters derived from electrorotation measurements," <i>Bioelectrochem. Bioenerg.</i> , 36:115-125, 1995.
	C23	Gawad <i>et al.</i> , "Impedance spectroscopy cell analysis in microchannels," <i>Micro Total Analysis Systems</i> , 253-255, 2001.
	C24	Gawad <i>et al.</i> , "Micronarcined impedance spectroscopy flow cytometer for cell analysis and particle sizing," <i>Lab on a Chip</i> , 1:76-82, 2001.
	C25	Geftter <i>et al.</i> , "A simple method for polyethylene glycol-promoted hybridization of mouse myeloma cells," <i>Somatic Cell Genet.</i> , 3: 231-236, 1977
	C26	Gellert <i>et al.</i> , in <i>The VNR Concise Encyclopedia of Mathematics</i> (Van Nostrand Reinhold, New York) pp 420-424, 1977.
	C27	Geohegan <i>et al.</i> , "The detection of human B lymphocytes by both light and electron microscopy utilizing colloidal gold labeled anti-immunoglobulin," <i>Immunol. Comm</i> 7:1-12, 1978.
	C28	Gimsa <i>et al.</i> , "Dielectrophoresis and electrorotation of neurospora slime and murine myeloma cells," <i>Biophys. J.</i> , 60:749-760, 1991.
	C29	Goding, 1986, <i>In Monoclonal Antibodies: Principles and Practice</i> , 2d ed., Orlando, Fla., Academic Press, 1986, pp. 60-61, 65-66, and 71-74.
	C30	Guatelli <i>et al.</i> , "Isothermal, in vitro amplification of nucleic acids by a multienzyme reaction modeled after retroviral replication," <i>Proc. Natl. Acad. Sci. USA</i> 87:1874-1878, 1990.
	C31	Hagedorn <i>et al.</i> , "Travelling-wave dielectrophoresis of microparticles," <i>Electrophoresis</i> , 13:49-54, 1992.

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Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

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	C32	He <i>et al.</i> , "Droplet charge-to-mass ratio measurement in an EHD liquid-liquid extraction system," <i>IEEE Transactions on Industry Applications</i> , 32(1):146-154, 1996.
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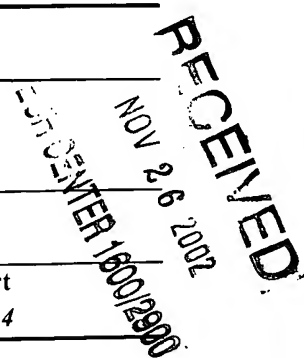
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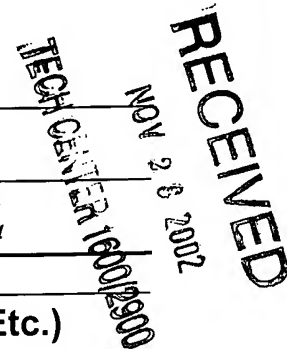
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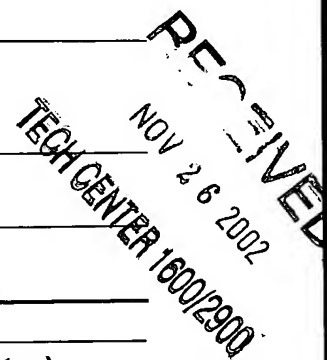
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